

FIG. 1

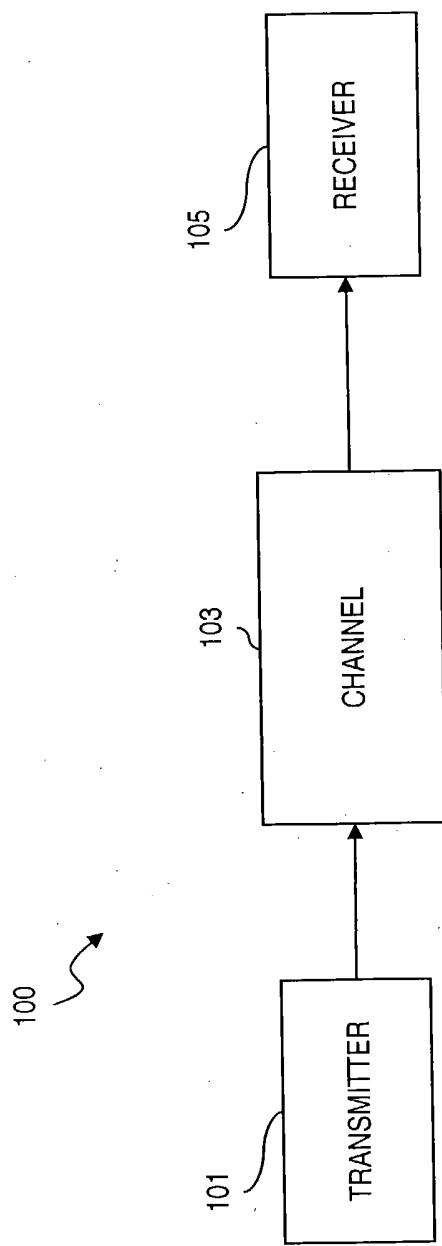


FIG. 2A

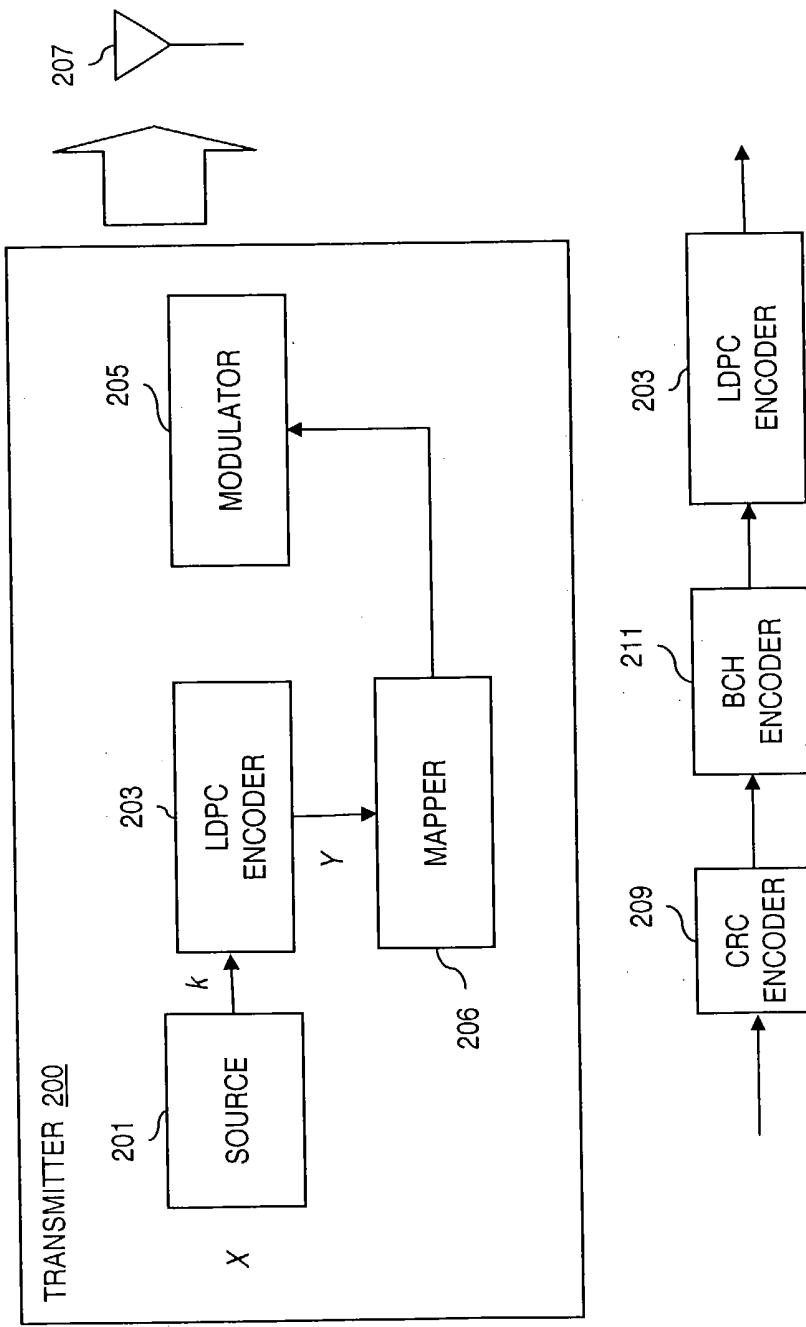


FIG. 2B

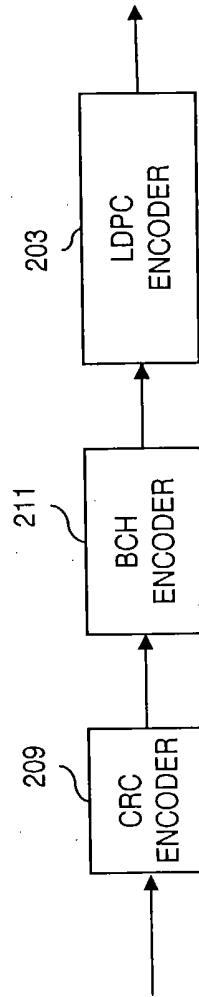


FIG. 3

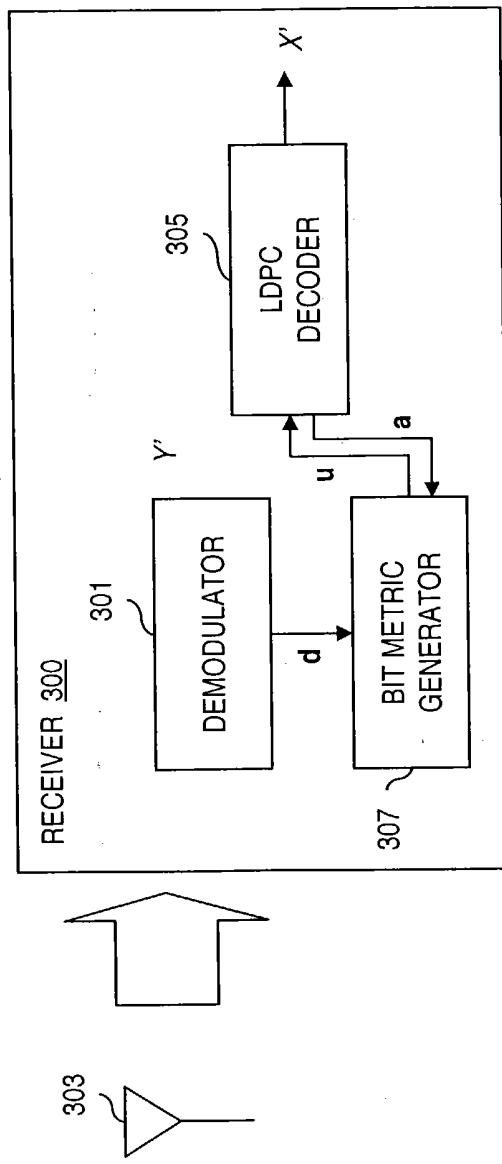
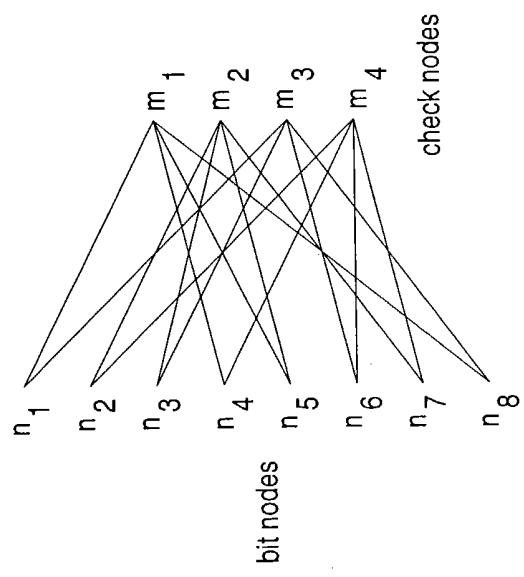


FIG. 4

$$H = \begin{bmatrix} n_1 & n_2 & n_3 & n_4 & n_5 & n_6 & n_7 & n_8 \\ 1 & 0 & 0 & 1 & 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 0 & 0 & 1 & 0 & 0 \\ 1 & 0 & 1 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 & 1 & 0 \end{bmatrix} \begin{bmatrix} m_1 \\ m_2 \\ m_3 \\ m_4 \end{bmatrix}$$

FIG. 5



$$B = \begin{bmatrix} 1 & 1 & 1 & 1 \\ x & x & x & x \end{bmatrix} \quad \mathbf{0}$$

FIG. 6

FIG. 7

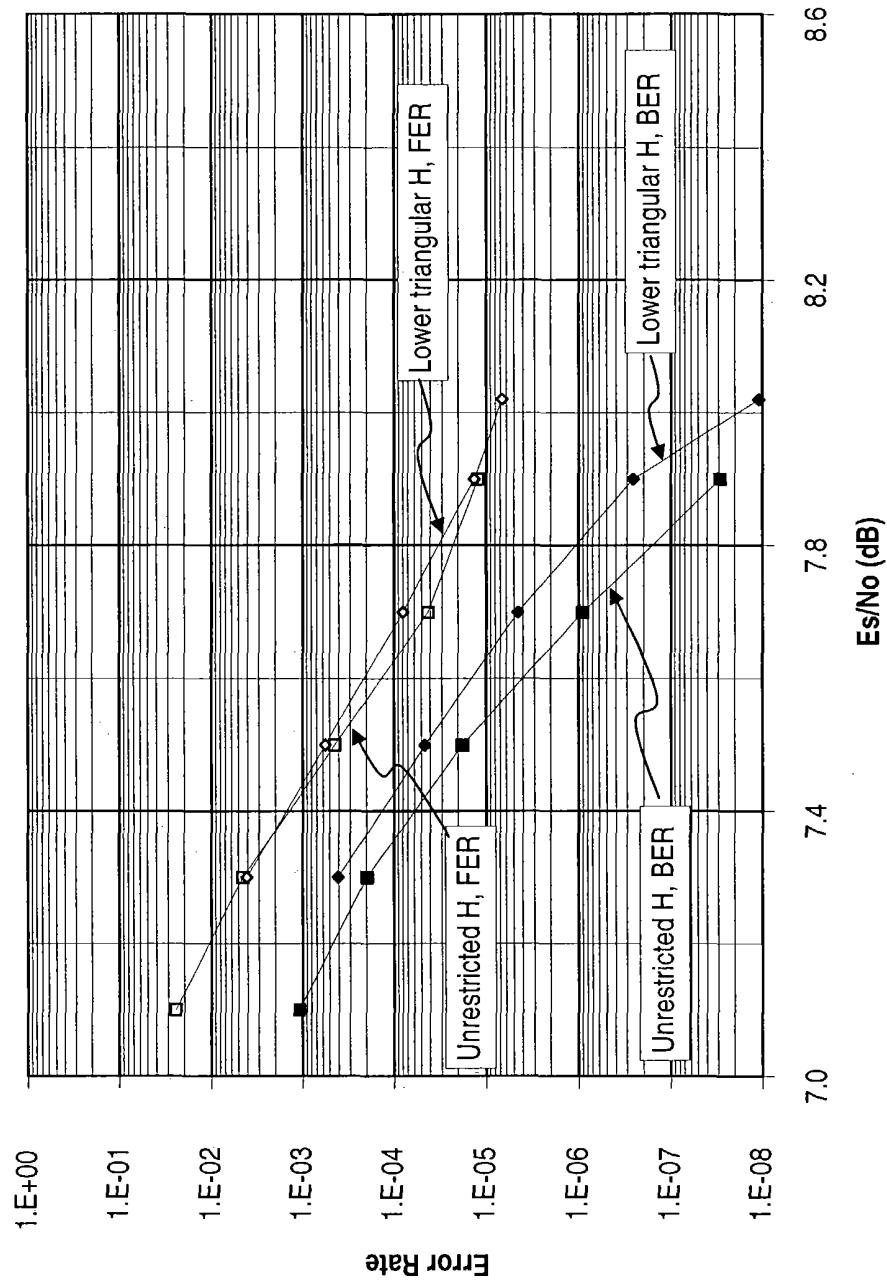


FIG. 8A

011 $\circ S_3$ $S_2 \circ 001$
110 $\circ S_6$ $S_0 \circ 000$
111 $\circ S_7$ $S_5 \circ 101$
 $S_4 \circ 100$

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010
 $S_5 \circ 001$
 $S_0 \circ 000$
 $S_1 \circ 101$
110 $\circ S_2$ $S_3 \circ 100$
 $S_0 \circ 000$

FIG. 8B

FIG. 8C

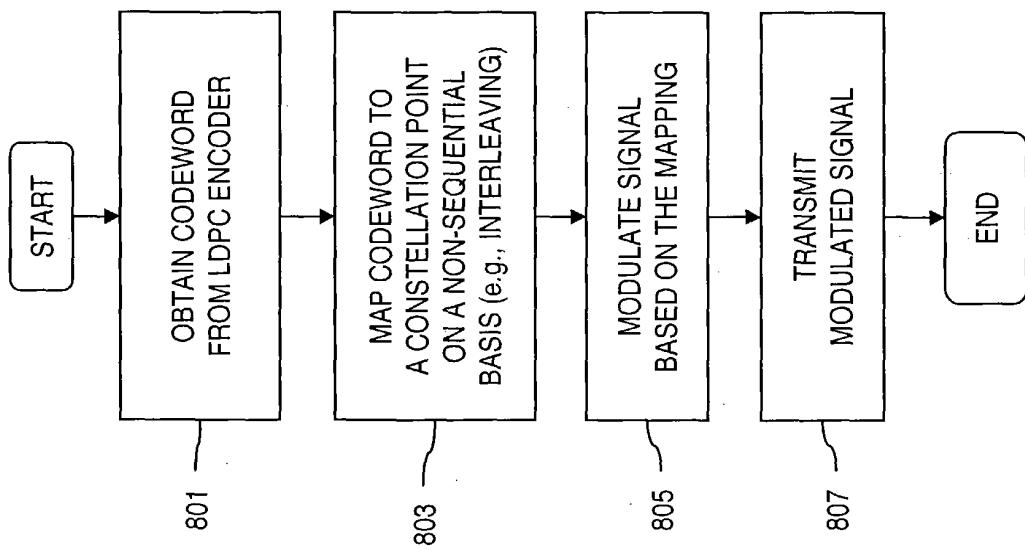
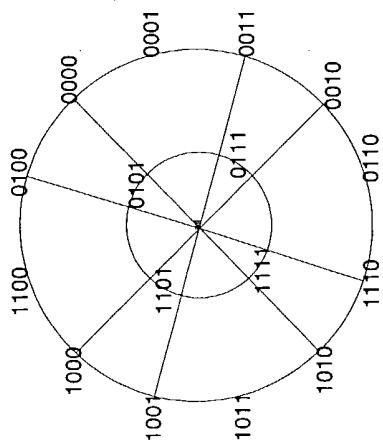
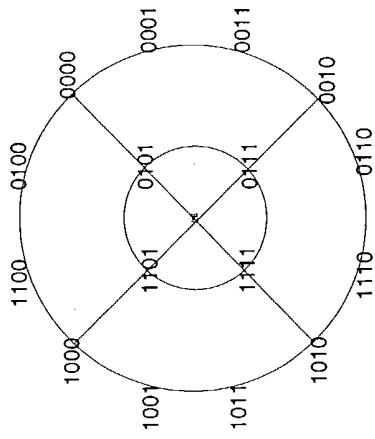


FIG. 8D

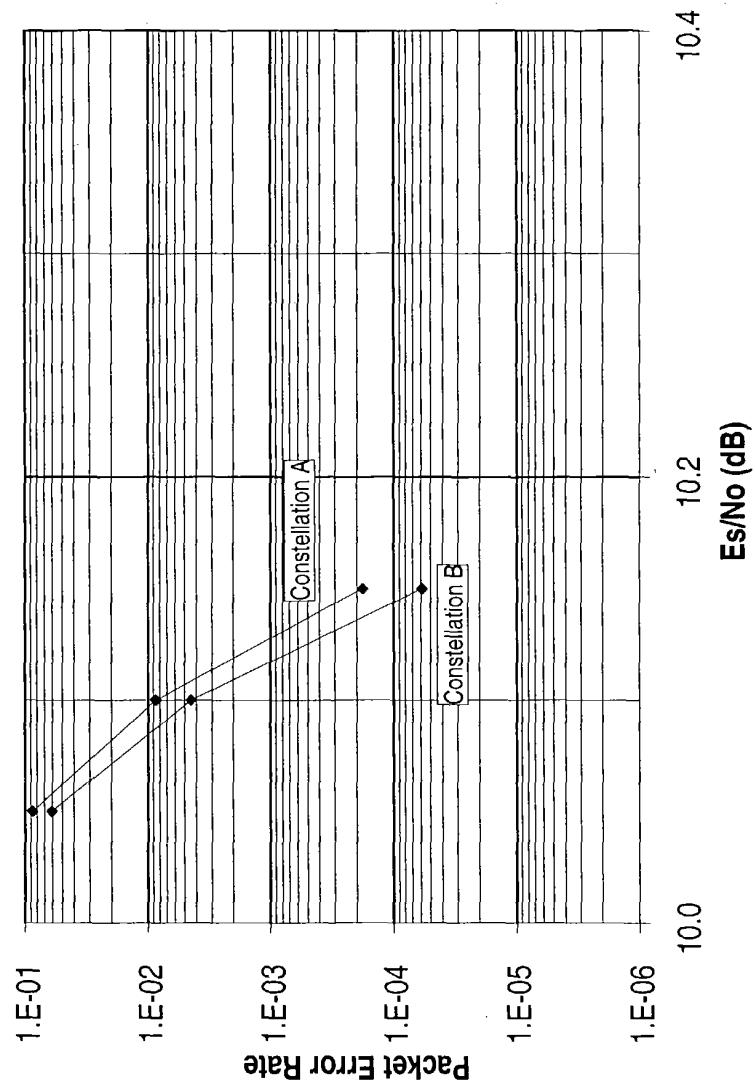


CONSTELLATION A



CONSTELLATION B

FIG. 8E



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FIG. 8F

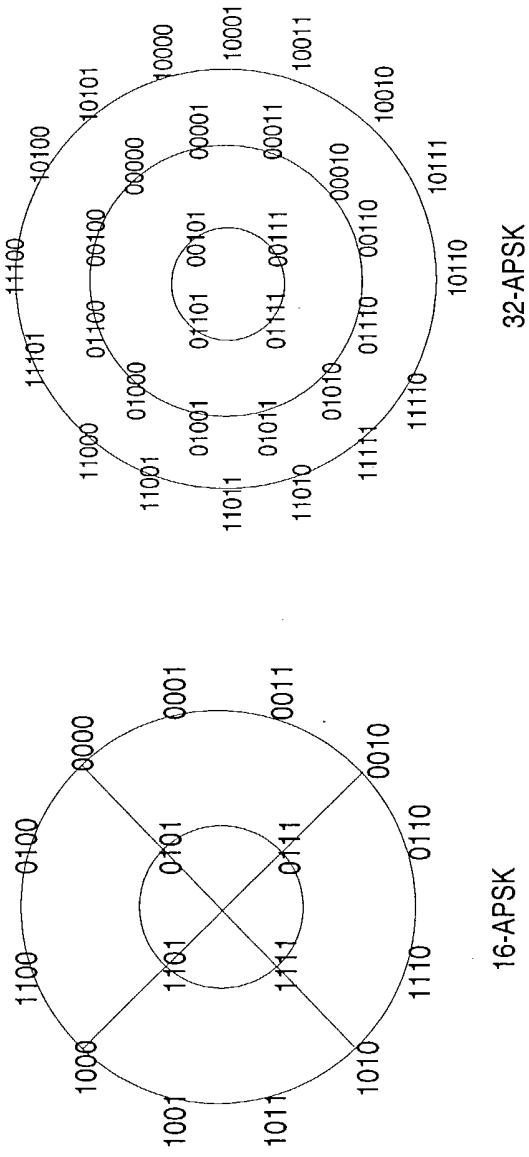
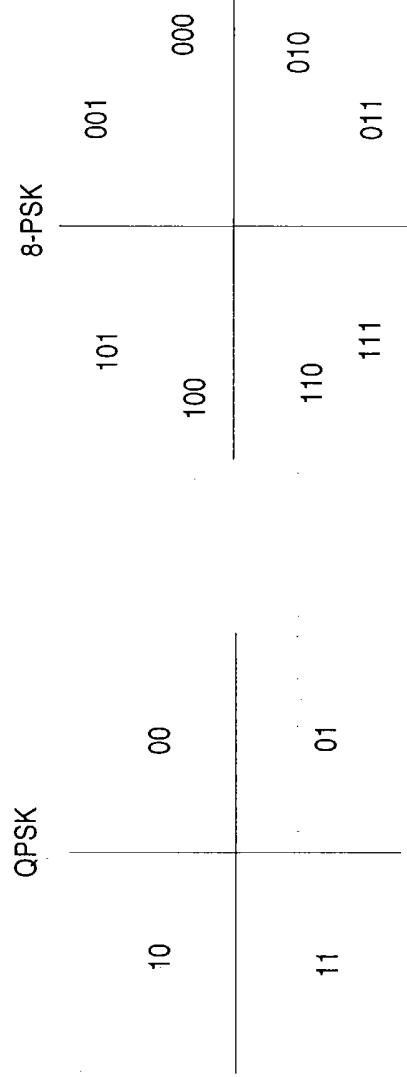


FIG. 8G

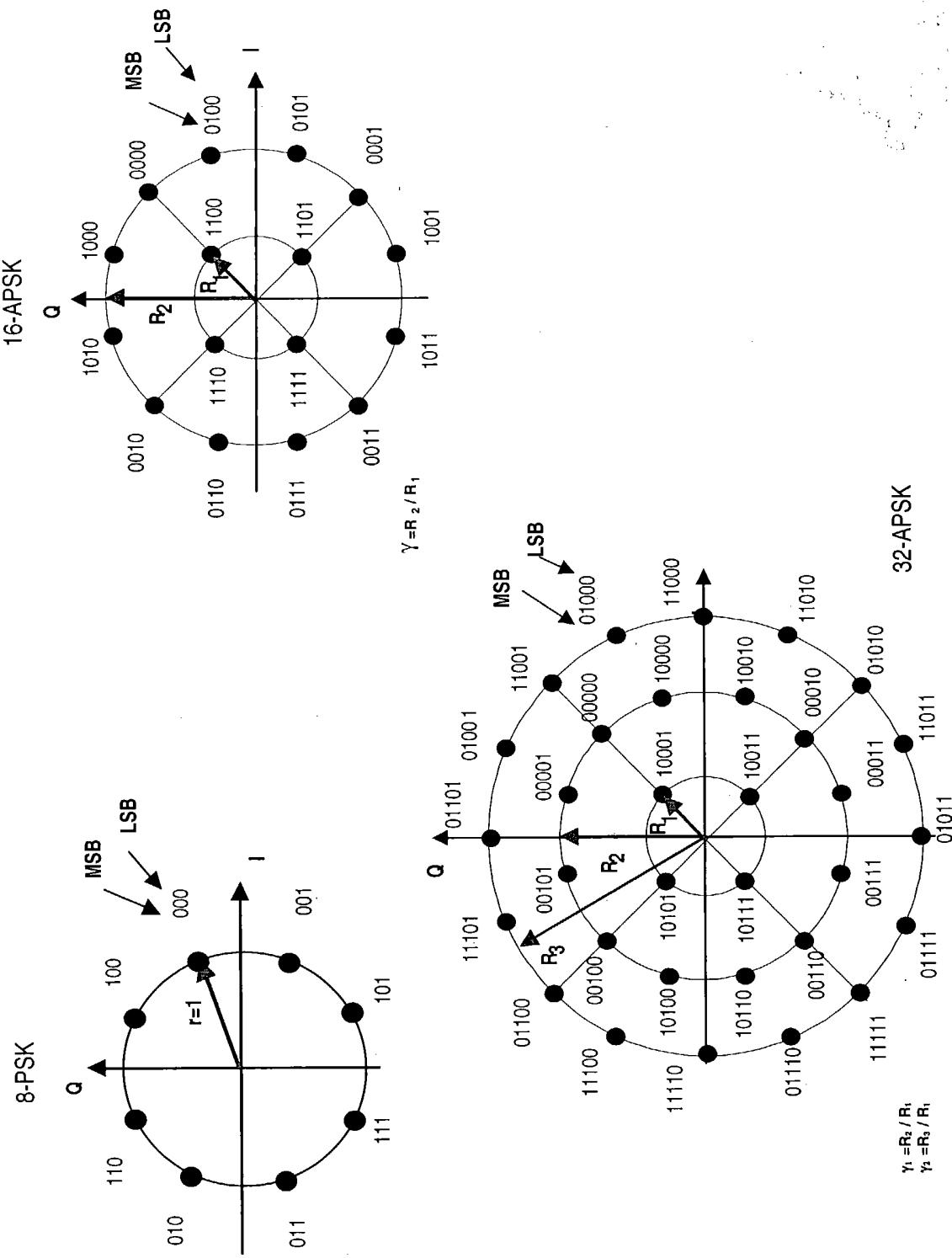


FIG. 8H

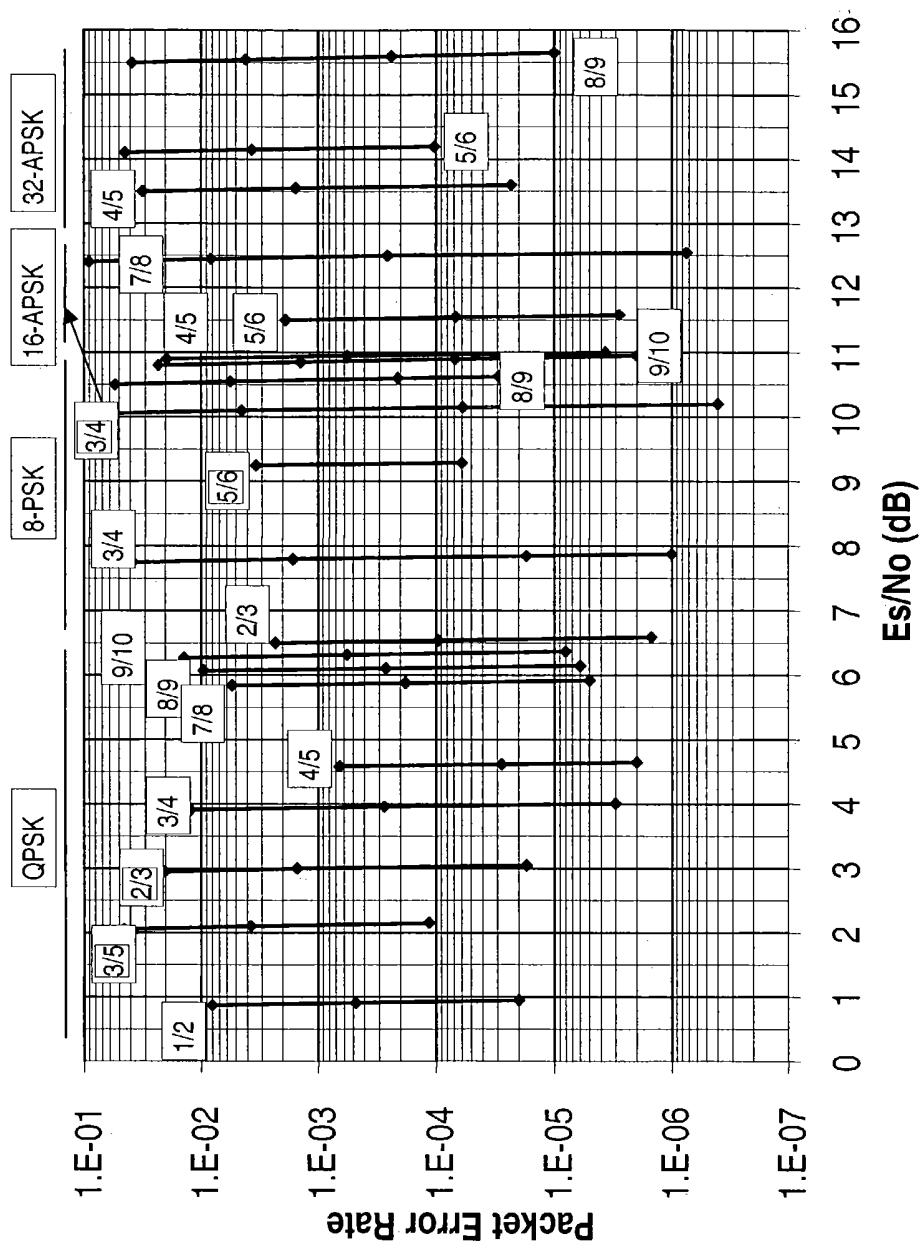


FIG. 9

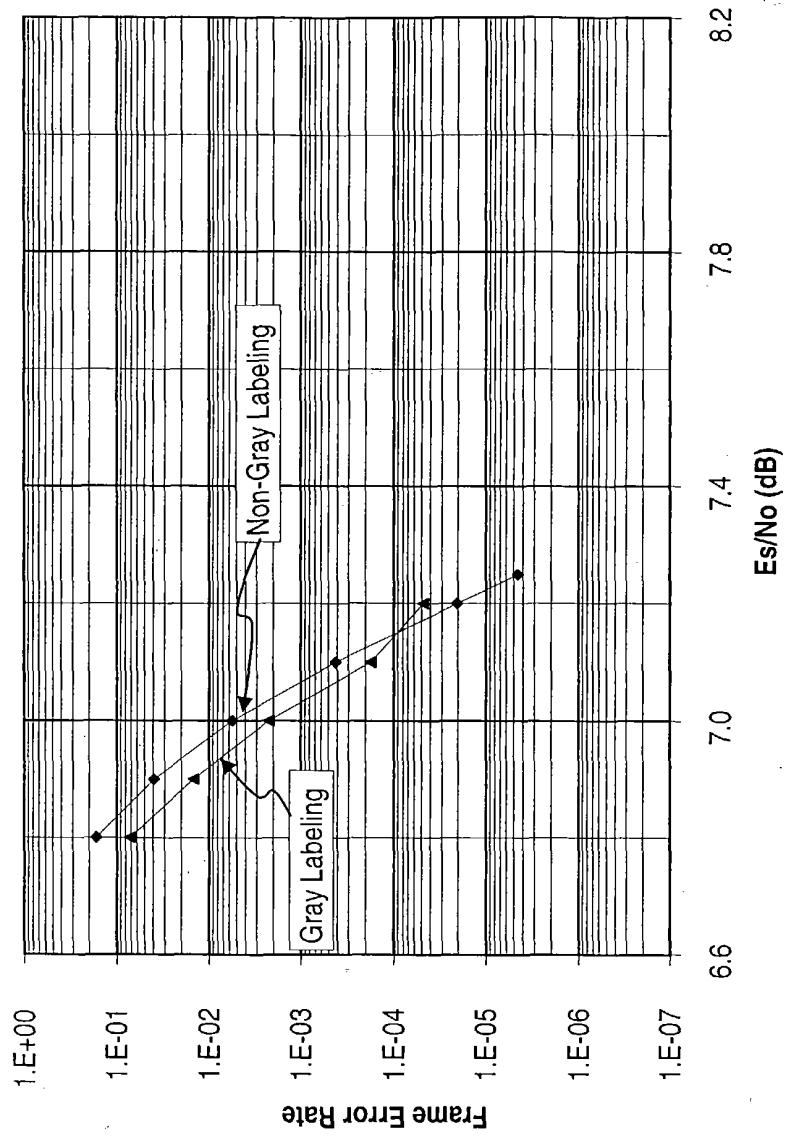


FIG. 10

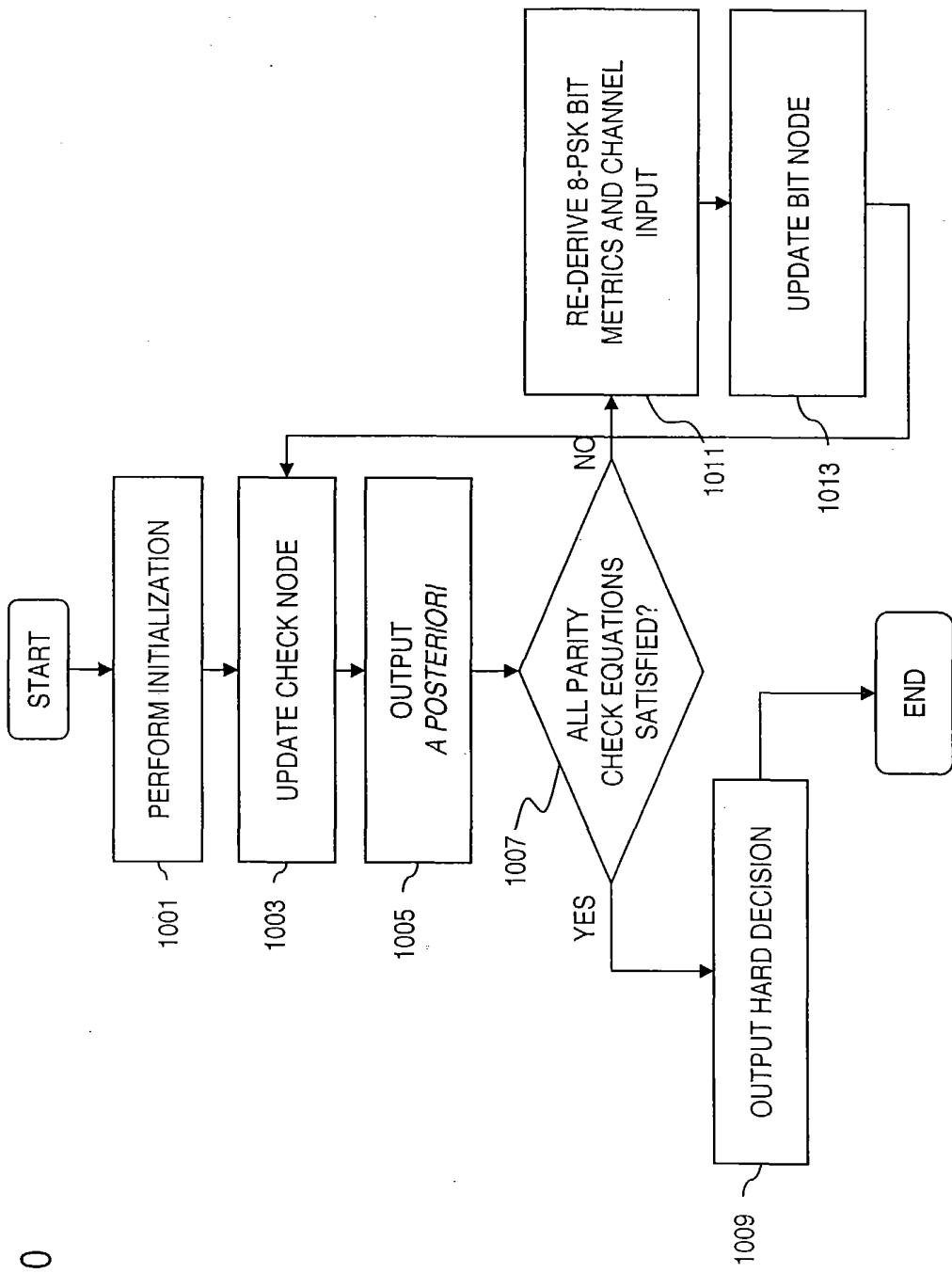


FIG. 11

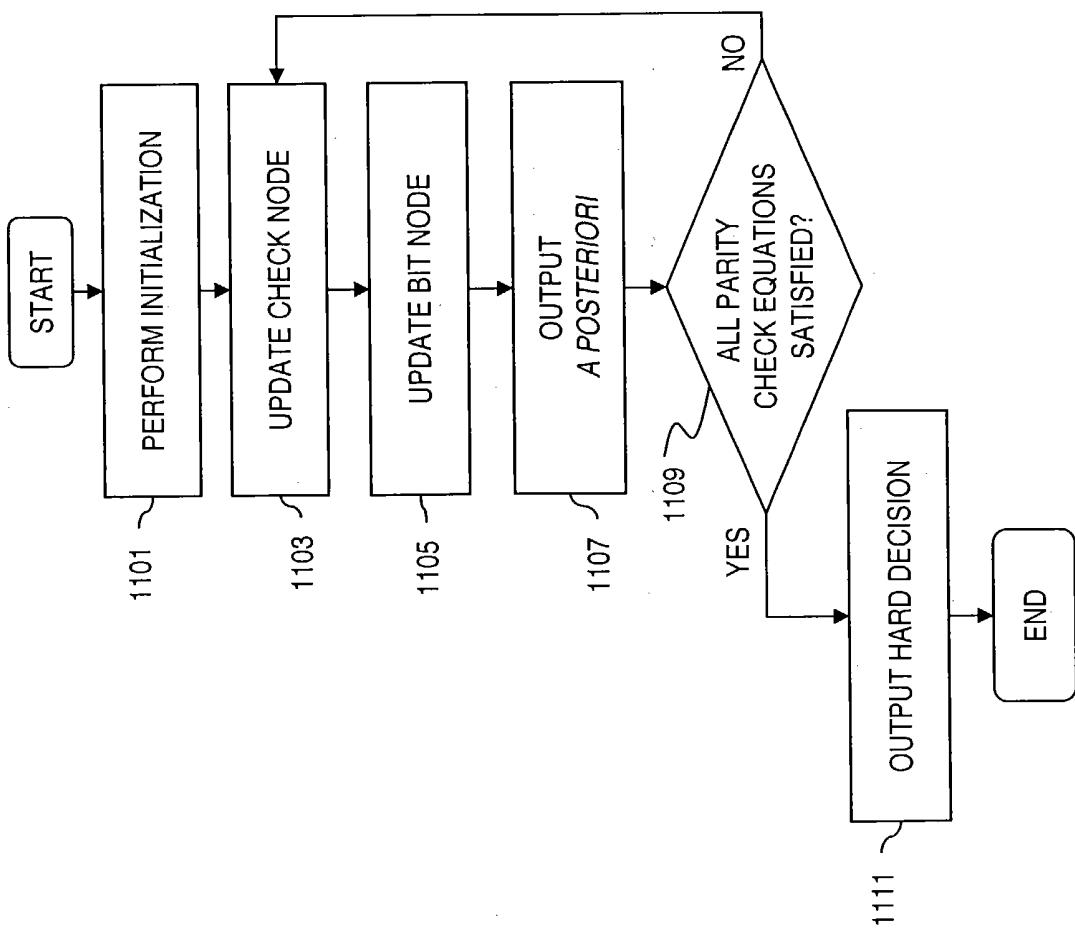


FIG. 12A

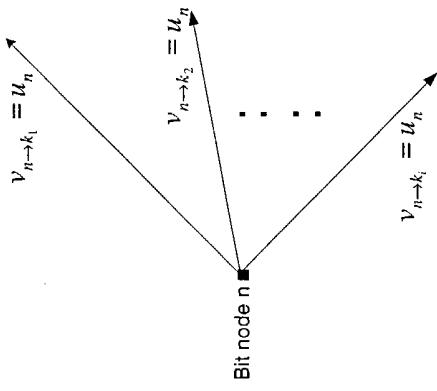
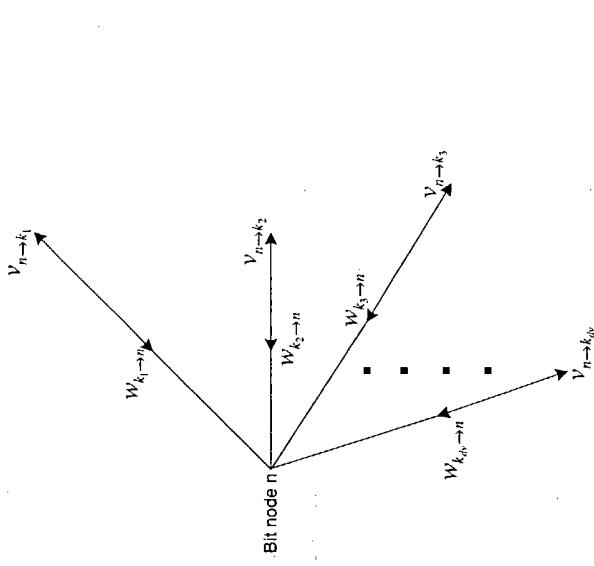
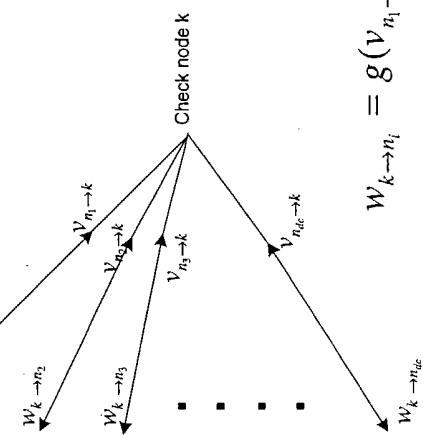


FIG. 12C



$$v_{n \rightarrow k_i} = u_n + \sum_{j \neq i} w_{k_j \rightarrow n}$$

FIG. 12B



$$w_{k \rightarrow n_i} = g(v_{n_1 \rightarrow k}, v_{n_2 \rightarrow k}, \dots, v_{n_{i-1} \rightarrow k}, v_{n_{i+1} \rightarrow k}, \dots, v_{n_{dc} \rightarrow k})$$

FIG. 13A

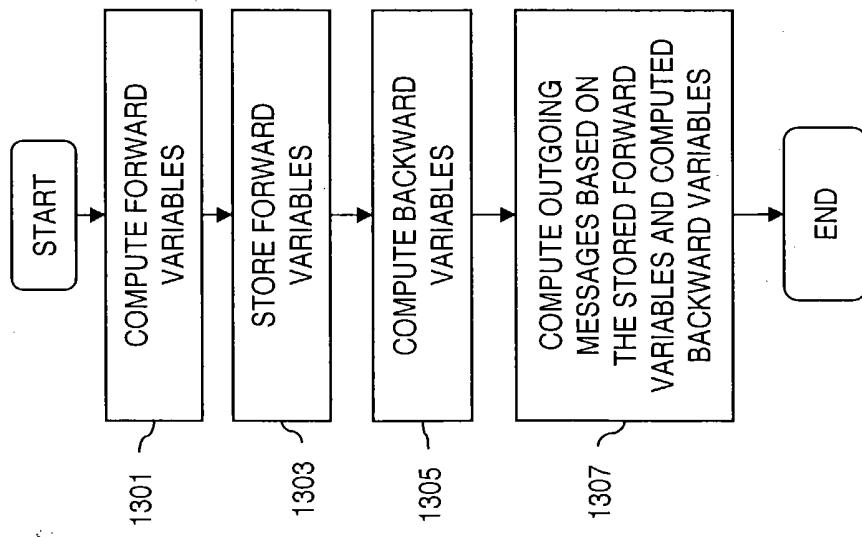


FIG. 13B

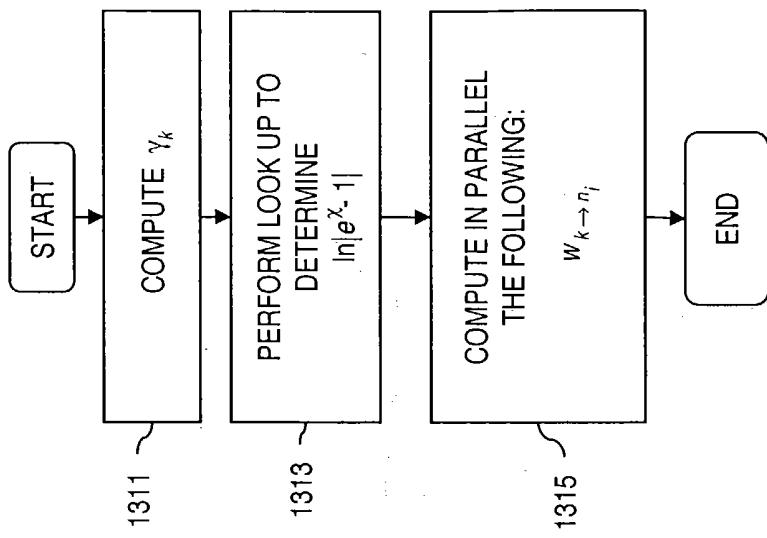


FIG. 14A

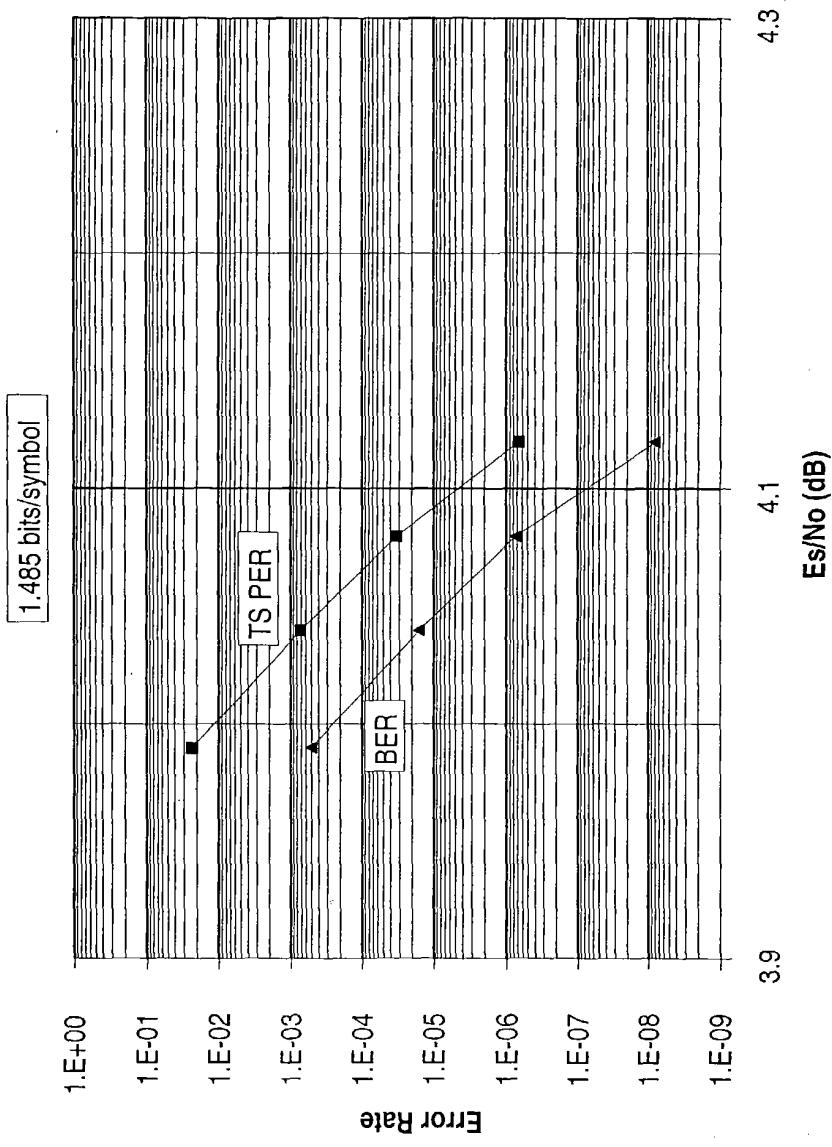


FIG. 14B

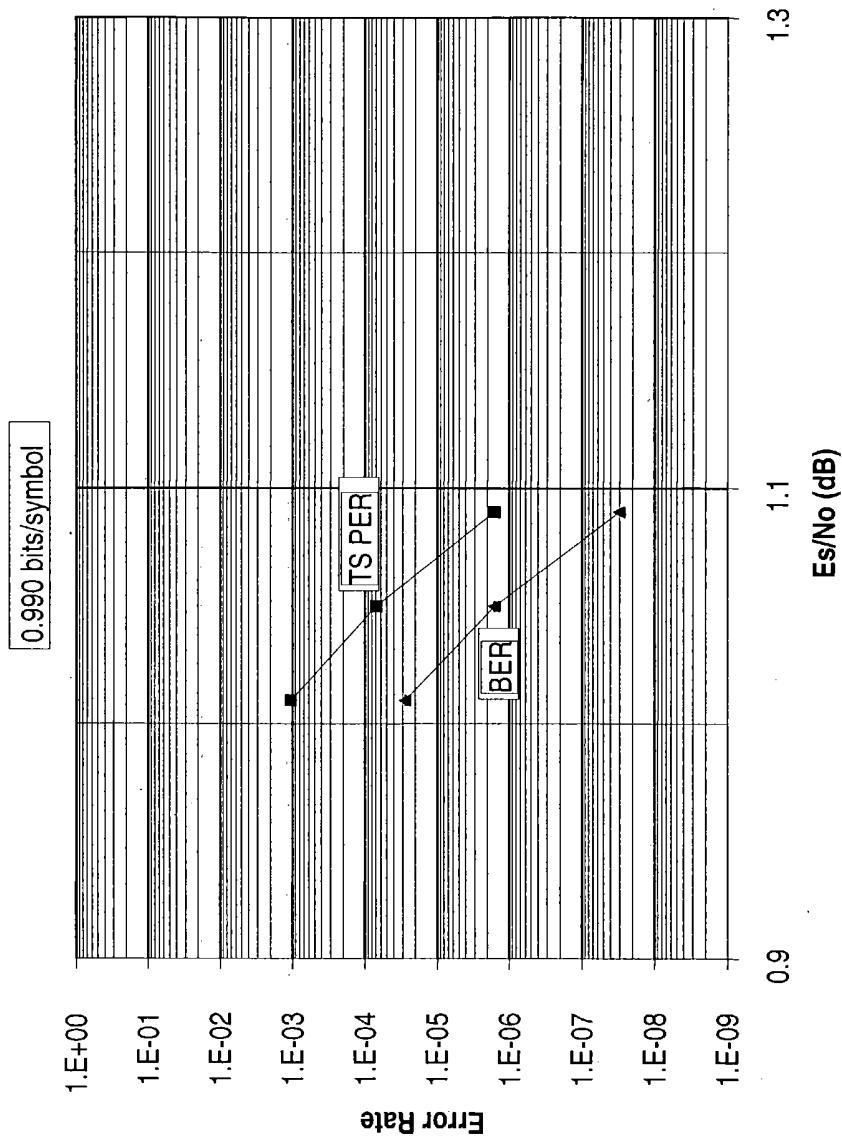


FIG. 14C

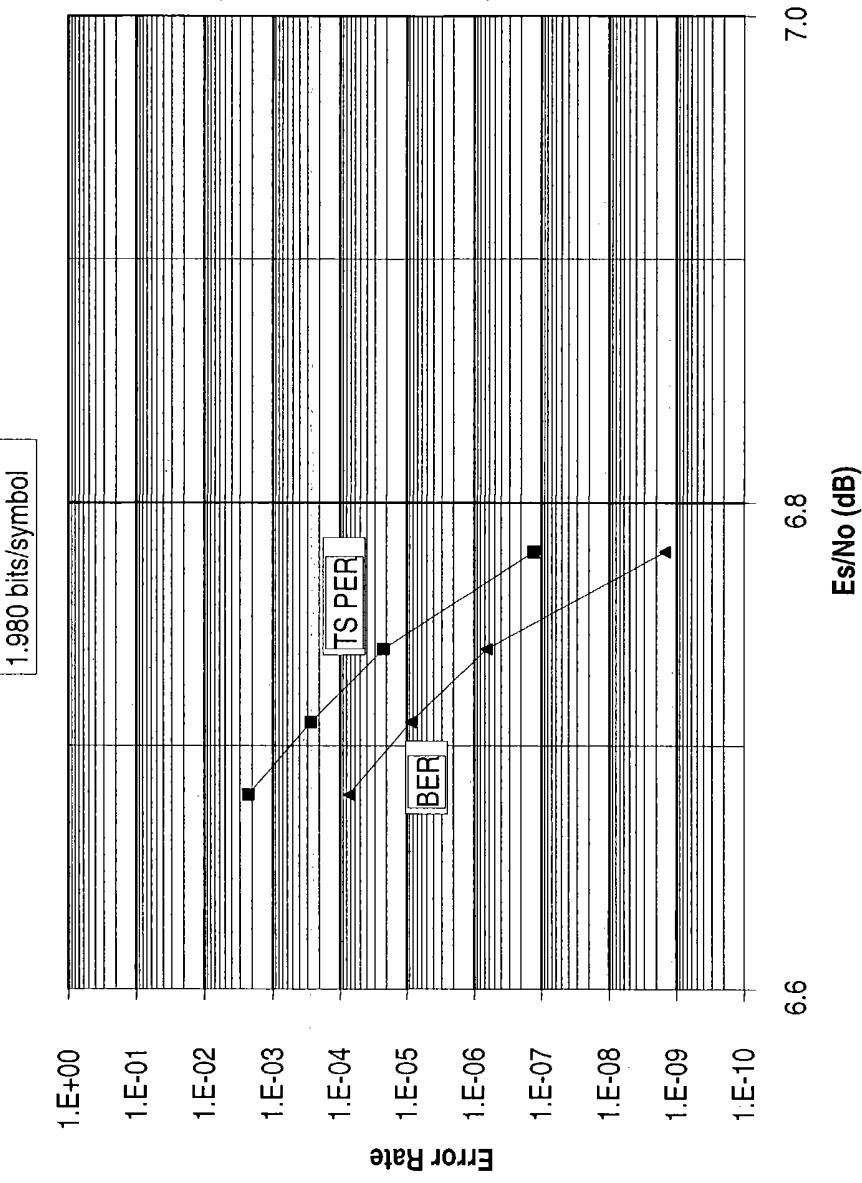


FIG. 15A

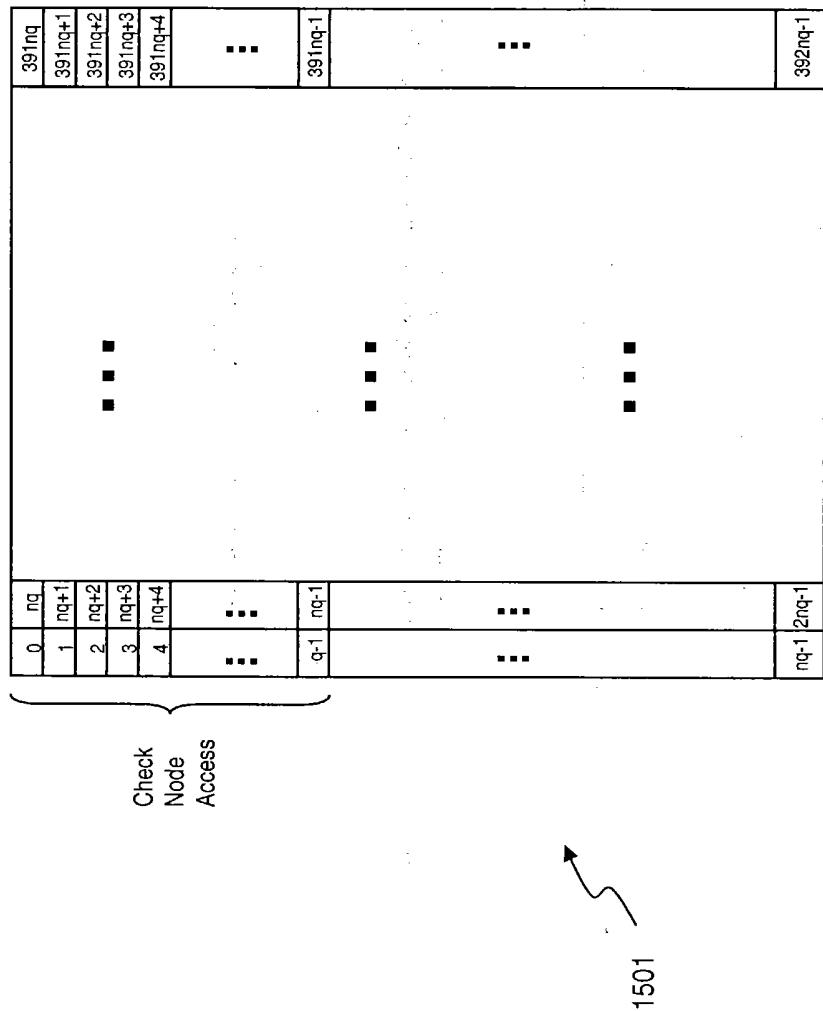


FIG. 15B

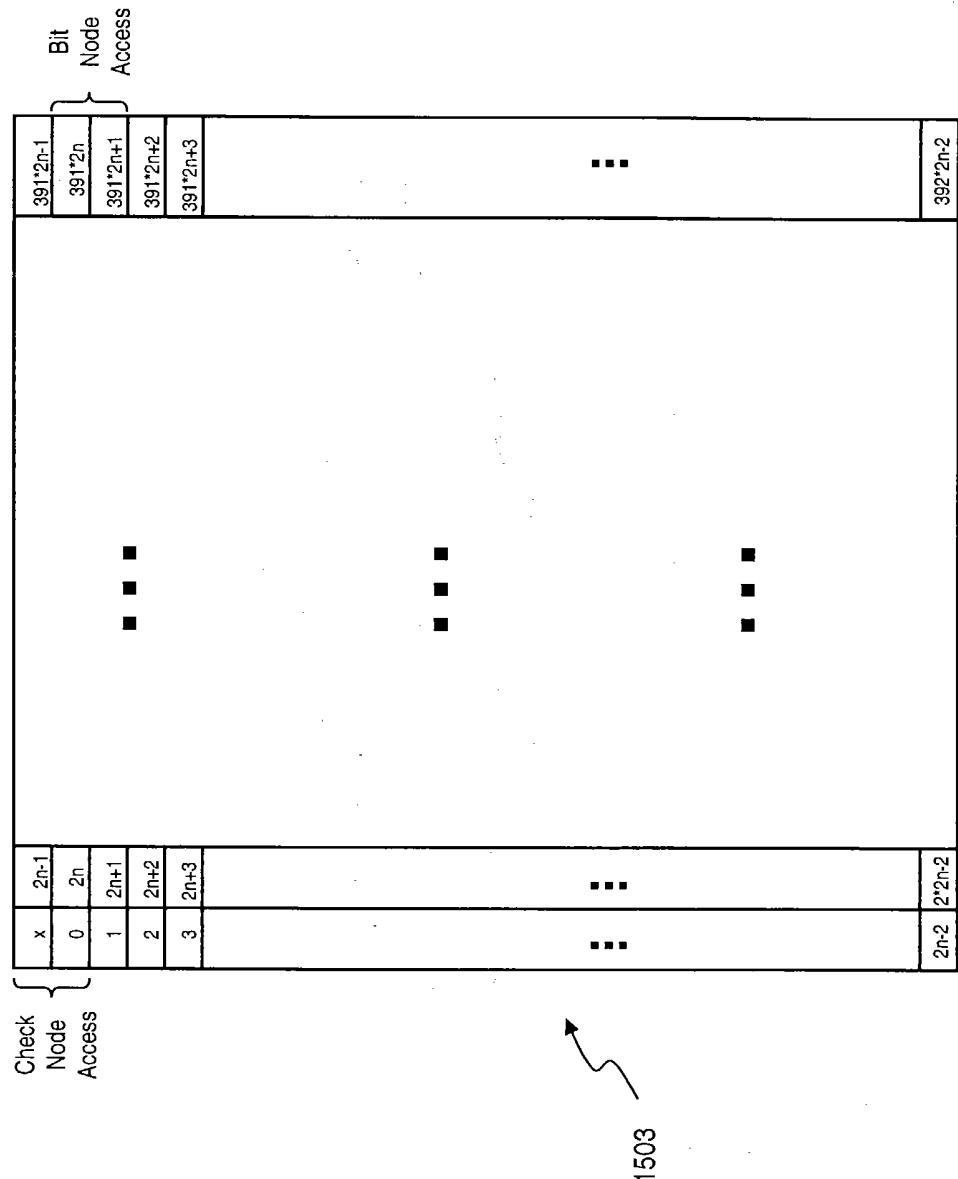


FIG. 16

